



## **NIOSH Center for Motor Vehicle Safety**

# **Report:** Evaluation of Strategic Plan for Research and Prevention, 2014-2018

This document describes the purpose and results of the evaluation, along with key takeaways from the process.



This product is a component of the NIOSH Center for Motor Vehicle Safety  
Evaluation of Strategic Plan for Research and Prevention, 2014-2018:

DHHS (NIOSH) Publication No. 2019-166 • <https://doi.org/10.26616/NIOSH PUB2019166>

## **NIOSH Center for Motor Vehicle Safety**

The NIOSH Center for Motor Vehicle Safety (CMVS) includes a Lead Team, researchers, communicators, and others across NIOSH locations. With our partners, we conduct research and develop strategies to prevent work-related motor vehicle crashes and injuries.

The CMVS Lead Team coordinates research, communication, and policy activities in work-related motor vehicle safety by:

- Setting priorities for NIOSH motor vehicle safety research
- Helping NIOSH researchers develop strong proposals that address these priorities
- Sharing our knowledge with CMVS researchers and other NIOSH programs
- Developing public and private sector partnerships
- Contributing to NIOSH policy activities related to motor vehicle safety
- Communicating research results and crash-prevention recommendations to employers, workers, and others

The CMVS Lead Team prepared this report, with contributions from many NIOSH researchers. The NIOSH CMVS Lead Team thanks CMVS researchers, communicators and others across NIOSH locations for their contributions to motor vehicle safety projects and outputs:

### **CMVS Lead Team**

Stephanie Pratt, PhD, Director

Rosa Rodríguez-Acosta, PhD, Coordinator

Kyla Retzer, MPH, Assistant Coordinator

David Fosbroke, MSF, Long Term Planning Coordinator

Rebecca Olsavsky, MS, Health Communication Specialist



# Table of Contents

<a href="#">Executive Summary</a> .....	4
<a href="#">Background</a> .....	5
<a href="#">Methods</a> .....	6
<a href="#">Results</a> .....	7
<a href="#">Impact Stories</a> .....	13
<a href="#">Limitations</a> .....	14
<a href="#">Key Findings</a> .....	15

# Executive Summary

The National Institute for Occupational Safety and Health (NIOSH) and its Center for Motor Vehicle Safety (CMVS) are committed to preventing work-related motor vehicle crashes and injuries.

From 2003-2017, more than 27,000 workers in the United States died in a work-related motor vehicle crash.<sup>1</sup> Crashes affect workers in all industries and occupations, whether they drive heavy trucks, emergency vehicles, pickup trucks, or cars, and whether driving is a primary or occasional part of the job.



Since 2014, NIOSH's CMVS has followed a [5-year strategic plan](#). To evaluate its success, the CMVS Lead Team used process evaluation and contribution analysis to count projects and outputs, rate progress on performance measures, and prepare Impact Stories. The evaluation was framed by **5 strategic goals**: 1) identify risk factors for work-related crashes, 2) apply engineering and technology-based safety interventions, 3) promote evidence-based policies and practices, 4) share NIOSH research with global partners, 5) communicate safety and policy recommendations; and **5 priority worker groups**: truck drivers, emergency medical services (EMS) workers & firefighters, law enforcement officers, oil & gas workers, and light-vehicle drivers. Results show:

- ✓ **Meaningful progress toward all 5 strategic goals:** Overall, 37 of 46 performance measures (80%) in the 2014-2018 plan were at least "Partially Met," with all 8 performance measures for Goal 5 "Met or Exceeded."
- ✓ **Close alignment of projects and outputs with goals and priority worker groups:** All 37 projects addressed at least 1 strategic goal, and all but 3 focused on a priority worker group or all workers. Of the 321 outputs, 109 were research, 37 fatality assessment, and 175 communication. The greatest numbers of research outputs were related to truck drivers or EMS workers & firefighters, and were most often tied to goals 1 and 3.
- ✓ **Impact on motor vehicle safety for each priority worker group:** Impact Stories place key outputs in the context of coordinated efforts to improve motor vehicle safety for each priority worker group. NIOSH researchers, communicators, and leaders can use these to share results of their work.

This evaluation describes progress to date and will lay the foundation for a new strategic plan beginning in 2020. Continuing to balance research and communication will position the CMVS to effectively and efficiently work toward our overarching goal of preventing work-related motor vehicle crashes.

---

<sup>1</sup> Bureau of Labor Statistics [2018]. Table A-2. Transportation incidents and homicides by detailed event or exposure, 2003-2017.

## Background

Motor vehicle crashes are the leading cause of work-related deaths in the United States.<sup>2</sup> To address this important worker safety issue, the National Institute for Occupational Safety and Health's (NIOSH) Center for Motor Vehicle Safety (CMVS) conducts research and develops strategies to prevent work-related motor vehicle crashes and injuries.

NIOSH has conducted research on work-related motor vehicle safety for 20 years, but a formal structure to coordinate this work did not exist until 2010. At that time, NIOSH established the CMVS to strengthen and sustain its activities surrounding this safety topic. CMVS researchers across NIOSH work with partners to identify crash risk factors, develop and evaluate workplace interventions to prevent crashes, and share the results with employers, workers, and others.

The CMVS includes a Lead Team and more than 40 team members located in NIOSH offices across the U.S. Team members' expertise includes epidemiology, statistics, engineering, human factors, psychology, policy science, occupational safety and health, and communication.



**NIOSH is the only part of the U.S. federal government whose mission includes preventing crashes and resulting injuries for *all* workers, not just a specific worker group.**

Since 2014, the CMVS has followed a 5-year strategic plan for research and prevention, pursuing 5 strategic goals: 1) identify risk factors for work-related crashes; 2) apply engineering and technology-based safety interventions; 3) promote evidence-based policies and practices; 4) share NIOSH research with global partners; and 5) communicate safety and policy recommendations. In 2016, the CMVS conducted a [midcourse review](#) of the plan, which showed that 65% of performance measures in the strategic plan were at least "Partially Met" and the most progress in meeting Goal 2 and Goal 5. The midcourse review also confirmed the relevance of priorities in the 5-year plan and the value of incorporating off-the-job factors such as health status and sleep habits into CMVS research.

This evaluation report assesses 5 years of progress toward the 5 CMVS strategic goals. The results will help the CMVS develop a new strategic plan for 2020-2029, which will address known motor vehicle safety challenges for workers while responding to emerging issues and technologies. Visit our Research Program [webpage](#) for more information related to strategic planning.

---

<sup>2</sup> Bureau of Labor Statistics [2018]. Table A-2. Transportation incidents and homicides by detailed event or exposure, 2003-2017.

# Methods

Using methods from process evaluation and contribution analysis,<sup>3</sup> the CMVS Lead Team conducted an in-house evaluation of motor vehicle safety research by NIOSH and its grantees.

## Process Evaluation

- ✓ Identified motor vehicle-related projects from 2014-2018 in the NIOSH Project Planning & Management System (NPPM) and the Research Portfolio Online Reporting Tool (RePORT). Added pre-2014 projects with outputs in 2014-2018 and ongoing fatality assessment projects with motor vehicle-related outputs in 2014-2018. Connected projects to strategic goals and priority worker groups (truck drivers, EMS workers & firefighters, law enforcement officers, oil & gas workers, and light-vehicle drivers).
- ✓ Counted motor vehicle-related research (e.g., journal article), fatality assessment (e.g., Fatality Assessment and Control Evaluation report), and communication (e.g., fact sheet) outputs published between January 1, 2014, and November 30, 2018.
  - Collected outputs via keyword search of NIOSHTIC-2,<sup>4</sup> using a SAS program. Supplemented this using the Division of Safety Research (DSR) iPubs tool, DSR quarterly project reports, NIOSH Science Policy Database (NSPD), State-based Occupational Health Surveillance Clearinghouse, NPPM, and RePORT.
  - Conducted double-blind review of each output to determine if it should be included. Discrepancies between reviewers were resolved by the CMVS Director.
  - Linked outputs to strategic goals, worker groups, and performance measures.
- ✓ Compared outputs and impacts with performance measures from the strategic plan. Rated each performance measure as “Met or Exceeded,” “Partially Met,” or “Not Met.”
- ✓ Compiled [Performance Measures](#). Used the percentage of performance measures “Met or Exceeded” or “Partially Met” to rate completion of strategic goals.

## Contribution Analysis

- ✓ Gathered examples of impact (i.e., actions by stakeholders in response to NIOSH products or activity) for priority worker groups using email updates, discussions with NIOSH researchers, project reports, and the NPPM.
- ✓ Worked with researchers to create 2-page [Impact Stories](#) for each priority worker group. Formatted these stories as stand-alone products that researchers and NIOSH leaders can use to share NIOSH impact with partners and policy makers.

---

<sup>3</sup> Downes A, Novicki E, Howard J [2018]. Using the contribution analysis approach to evaluate science impact. Am J Eval April: [Epub ahead of print], <https://doi.org/10.1177/1098214018767046>

<sup>4</sup> [NIOSHTIC-2](#) is a searchable bibliographic database of occupational safety and health publications whose development was supported in whole or in part by NIOSH.

# Results

## Projects

Thirty-seven motor vehicle-related projects were initiated, continued, or completed between 2014 and 2018, 13 of which were awarded to external grantees in academia or state government (denoted by italics in the table below). Strategic Goal 1 garnered more projects than any other goal – 24 total. By worker group, the greatest number of projects focused on truck drivers – 9 total.

NIOSH Project / Grantee Project	Strategic Goal*				
	1	2	3	4	5
<b>Motor vehicle-related projects* initiated or completed, by strategic goal and worker group, 2014-2018</b>					
<b>All Worker Groups</b>					
Motor vehicle safety initiative	✓	✓	✓	✓	✓
Fatality Assessment and Control Evaluation (FACE)	✓		✓		
<i>California occupational health and safety surveillance program</i>	✓		✓		✓
<i>Kentucky occupational safety and health surveillance</i>	✓		✓		✓
<i>Expanded occupational health surveillance in Massachusetts</i>	✓		✓		✓
<i>Expanded program in injury and illness surveillance (Michigan)</i>	✓		✓		✓
<i>Occupational safety and health surveillance and intervention in New York State</i>	✓		✓		✓
<i>Washington occupational injury and illness surveillance and prevention program</i>	✓		✓		✓
<b>Truck Drivers</b>					
Health and injury survey of truck drivers	✓		✓		✓
Work organization risks to short-haul truck drivers' health & safety	✓				
North American Fatigue Management Program effectiveness in reducing commercial truck driver fatigue			✓		
Evaluation of an intervention to reduce collisions in drivers of light and Intermediate size trucks			✓		✓
Evaluation of commercial vehicle active safety systems and their effect on truck driver behavior		✓			
Effect of vehicle automation on truck driver situation awareness and road safety		✓			
<i>Risk factors for crashes in a retrospective cohort study of commercial truck drivers</i>	✓				
<i>Effects and feasibility of a computer-based intervention on truck drivers' sleep</i>			✓		
<i>A cloud based solution to commercial driver hazard perception training and screening</i>		✓			
<b>EMS Workers &amp; Firefighters</b>					
Partnering with industry to build safe EMS work environments	✓	✓	✓		✓
Best-practice guidelines for occupational driver safety at intersections	✓	✓	✓		

Worker Group and NIOSH Project / Grantee Project	Strategic Goal*				
	1	2	3	4	5
Fire apparatus design and PPE sizing: Knowledge & technology transfer	✓	✓			
Reducing firefighter vehicle crashes: Simulation and intervention		✓			
Fire Fighter Fatality Investigation and Prevention Program	✓		✓		✓
<i>Implementing risk management strategies to prevent injuries among firefighters</i>			✓		
<b>Law Enforcement Officers</b>					
Law enforcement officer motor vehicle crash and struck-by fatality investigations	✓				
Evaluation of an occupational motor-vehicle crash prevention program in law enforcement			✓		✓
Online training for law enforcement to reduce risks associated with shift work and long work hours			✓		
Law enforcement officer anthropometry for safe vehicle operation and personal protection	✓	✓			
<b>Oil &amp; Gas Workers</b>					
Fatigued and distracted driving in the oil and gas extraction (OGE) industry: Risk factors and interventions	✓		✓	✓	
Protecting oil workers through enhanced surveillance, exposure assessments, and control evaluations	✓				
Seat belt use by workers who drive as part of their job: What's not "clicking"?	✓				
Addressing occupational safety and health hazards in oil & gas drilling & servicing	✓		✓	✓	✓
<b>Light-Vehicle Drivers</b>					
Analysis of company fleet safety management data to guide research and prevention	✓				
Taxi driver survey on motor vehicle safety and workplace violence	✓				
Evaluating an intervention designed to reduce fatigue among taxi drivers			✓		
<b>Other Workers</b>					
<i>Impact of eliminating extended duration work shifts on resident health and safety</i>	✓		✓		
<i>Work zone sign design for increased driver compliance and worker safety</i>		✓	✓		
<i>Warning beacons for front line service workers</i>		✓	✓		

‡ Some grantee projects funded through programs such as NIOSH Education and Research Centers and Agricultural Centers had incidental motor vehicle-related outputs. These projects are omitted from this table, but the outputs are included in the two tables that follow.

**\*Strategic Goal Themes:**

- 1: Identify risk factors for work-related crashes
- 2: Apply engineering and technology-based safety interventions
- 3: Promote evidence-based policies and practices
- 4: Share NIOSH research with global partners
- 5: Communicate safety and policy recommendations

## Outputs by Strategic Goal

There were 109 motor vehicle-related research outputs, 37 fatality assessment outputs, and 175 communication outputs during the 2014-2018 period, many of which addressed more than one strategic goal. Research outputs most often addressed Goal 1 (n=72) and Goal 3 (n=48), with journal articles (n=61) the most common type. Among communication products, the most common outputs were social media campaigns to promote products or safety observances (n=68).

Research, fatality assessment, and communication outputs, by strategic goal, 2014-2018						
		Strategic Goal*				
	Total	1	2	3	4	5
<b>Research Outputs</b>						
Journal articles	61	48	10	18	1	-
Conference proceedings	14	6	7	7	-	1
Consensus standards	13	-	13	13	-	-
Regulatory comments	3	2	2	2	-	-
Research databases	2	2	2	-	-	-
Book chapters	3	3	-	2	1	1
Program information	4	4	4	4	4	4
Other	9	7	1	2	-	1
<b>Total</b>	<b>109</b>	<b>72</b>	<b>39</b>	<b>48</b>	<b>6</b>	<b>7</b>
<b>Fatality Assessment Outputs</b>						
Assessment reports	37	37	-	37	-	-
<b>Communication Outputs</b>						
Fact sheets	18	3	-	8	-	18
Newsletter issues	13	5	6	9	2	13
Infographics	3	2	1	2	-	3
Animated images	13	-	-	-	-	13
Webpages	8	5	2	5	2	8
Blog posts	19	1	4	3	-	19
Social media campaigns	68	23	2	46	9	68
Program information	8	-	-	-	-	8
Other	25	5	7	12	-	25
<b>Total</b>	<b>175</b>	<b>44</b>	<b>22</b>	<b>85</b>	<b>13</b>	<b>175</b>

### \*Strategic Goal Themes:

- 1: Identify risk factors for work-related crashes
- 2: Apply engineering and technology-based safety interventions
- 3: Promote evidence-based policies and practices
- 4: Share NIOSH research with global partners
- 5: Communicate safety and policy recommendations

## Outputs by Worker Group

NIOSH researchers and communicators produced 219 outputs (68%), while grantees produced 102 (32%). The greatest numbers of research outputs focused on truck drivers (n=31), other worker groups not defined as high-priority by the CMVS (n=24), and EMS workers & firefighters (n=19). Over a third of the journal articles focused on truck drivers. Over 50% of communication outputs targeted all workers who drive on the job (n=96), with social media campaigns accounting for the greatest number of outputs (n=43) in this category.

<b>Research, fatality assessment, and communication outputs, by worker group, 2014-2018</b>								
	<b>Worker Group</b>							
	<b>Total</b>	<b>Truck Drivers</b>	<b>EMS Workers &amp; Fire Fighters</b>	<b>Law Enforcement Officers</b>	<b>Oil &amp; Gas Workers</b>	<b>Light-Vehicle Drivers</b>	<b>All*</b>	<b>Other*</b>
<b>Research Outputs</b>								
Journal articles	61	24	3	5	2	-	8	19
Conference proceedings	14	2	-	-	4	-	6	2
Consensus standards	13	-	13	-	-	-	-	-
Regulatory comments	3	1	1	-	-	-	1	-
Research databases	2	-	2	-	-	-	-	-
Book chapters	3	-	-	-	1	-	2	-
Program information	4	-	-	-	-	-	4	-
Other	9	4	-	1	-	-	1	3
<b>Total</b>	<b>109</b>	<b>31</b>	<b>19</b>	<b>6</b>	<b>7</b>	<b>-</b>	<b>22</b>	<b>24</b>
<b>Fatality Assessment Outputs</b>								
Assessment reports	37	11	10	6	-	-	-	10
<b>Communication Outputs</b>								
Program information	8	-	-	1	-	-	5	2
Fact sheets	18	3	2	-	2	-	5	6
Newsletter issues	13	-	-	-	-	-	13	-
Infographics	3	-	1	1	-	-	1	-
Animated images	13	-	-	1	1	-	9	2
Webpages	8	-	-	-	-	-	3	5
Blog posts	19	-	1	3	-	-	12	3
Social media campaigns	68	5	-	4	1	1	43	14
Other	25	7	6	2	-	-	5	5
<b>Total</b>	<b>175</b>	<b>15</b>	<b>10</b>	<b>12</b>	<b>4</b>	<b>1</b>	<b>96</b>	<b>37</b>

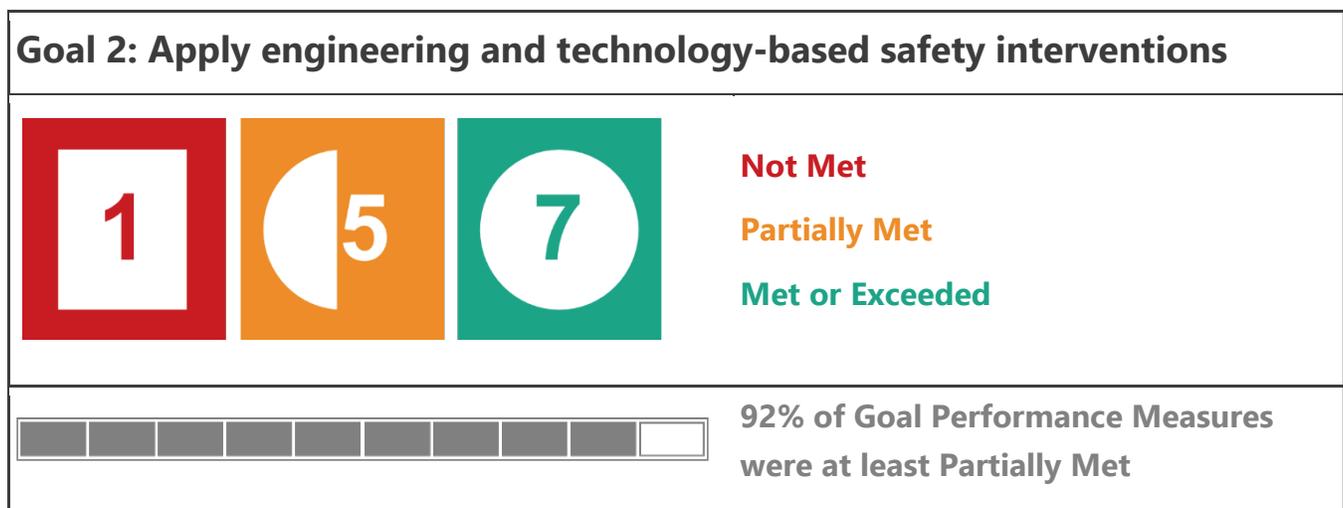
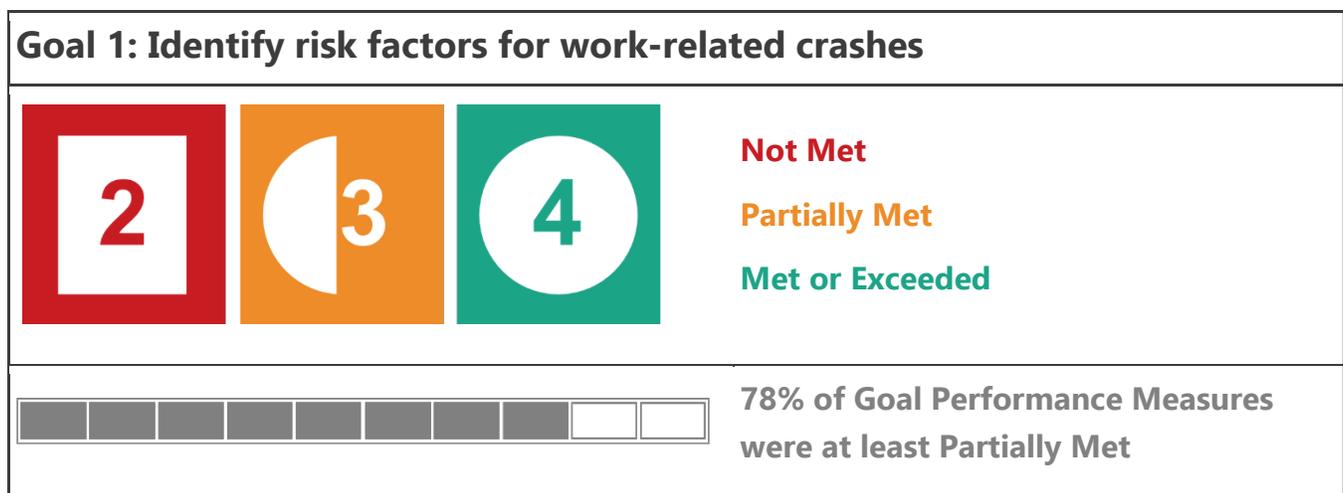
\*Each output was assigned to the one worker group that was the best fit. Only one output was designed exclusively for the Light-Vehicle Drivers group. However, all the outputs assigned to All Sectors also applied to Light-Vehicle Drivers, who are found in all industry sectors.

\*Most outputs addressing other worker groups were produced by NIOSH grantees.

## Performance Measures & Strategic Goals

The 2014-2018 strategic plan provides performance measures for each of 5 strategic goals. The [Performance Measures](#) document outlines each of the measures, their status, and related examples of outputs and impact. Each measure was rated as "Not Met," "Partially Met," or "Met or Exceeded." A "Partially Met" rating required funding of a project, initiating work under an existing project, or completing work addressing a part of the performance measure.

Of 46 performance measures across 5 strategic goals, 80% were at least "Partially Met" as of November 2018 (9 were "Not Met," 13 were "Partially Met," and 24 were "Met or Exceeded"). Progress varied by goal, ranging from 56% of performance measures under Goal 3 being at least "Partially Met," to all performance measures under Goal 5 being "Met or Exceeded."



### Goal 3: Promote evidence-based policies and practices



**Not Met**  
**Partially Met**  
**Met or Exceeded**



56% of Goal Performance Measures were at least Partially Met

### Goal 4: Share NIOSH research with global partners

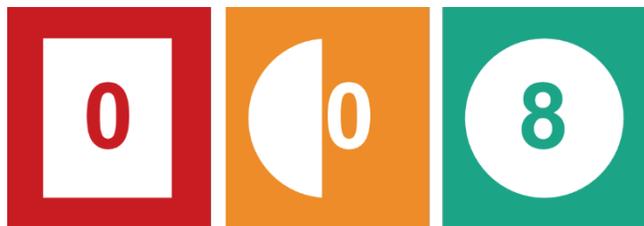


**Not Met**  
**Partially Met**  
**Met or Exceeded**



71% of Goal Performance Measures were at least Partially Met

### Goal 5: Communicate safety and policy recommendations



**Not Met**  
**Partially Met**  
**Met or Exceeded**



100% of Goal Performance Measures were at least Partially Met

# Impact Stories

The CMVS Lead Team worked with researchers to develop 5 [Impact Stories](#) as examples of actions, findings, outputs, and impacts (intermediate outcomes) on selected populations at elevated motor vehicle crash and injury risk.<sup>5</sup>



## Truck Drivers

Truck transportation is essential to the U.S. economy. Long-haul truck drivers work long hours and drive long distances, increasing their risk for crashes. [View the Impact Story](#)



## EMS Workers & Firefighters

Emergency medical services workers & firefighters are vital to disaster response. Their duties expose them to hazards that increase their risk for on-the-job injuries. [View the Impact Story](#)



## Law Enforcement Officers

Officers spend many hours behind the wheel and face increased crash risk when responding to emergency calls. [View the Impact Story](#)



## Oil & Gas Extraction Workers

Many oil & gas extraction workers drive long distances from their homes, lodging sites, and equipment yards to reach well sites, which are often in remote areas. [View the Impact Story](#)



## Light-Vehicle Drivers

Millions of workers drive light vehicles to meet with clients or customers. [View the Impact Story](#)

<sup>5</sup> Impact Story Graphics: ©Thinkstock; ©iStock/Thinkstock; ©Stockbyte/Thinkstock; ©iStock/Thinkstock; ©iStock/Thinkstock.

## Limitations

- When the 2014-2018 CMVS strategic plan was written, there was no evaluation plan in place. Individual activity/output goals had performance measures, but overall success was not defined or measured. Therefore, evaluation data were not collected throughout the 5-year period.
- The lack of a standard method for tracking inhibits complete capture of project impacts, which may extend 5-10 years after project completion. The CMVS Lead Team relied heavily on lead researchers to obtain useful information about impact.
- Developing the 5 Impact Stories was a time-intensive process, so the evaluation does not describe the impact of all NIOSH motor vehicle safety research projects.
- The evaluation did not assess efficiency in implementing the strategic plan, or compare projects, outputs, or impacts before and after the period covered by the strategic plan.
- Some performance measure assessments were subjective. While some performance measures could be quantified, others could not. For example, a performance measure on strengthening coordination of research through international organizations lacks a baseline or a target value.
- Identifying products and assessing impact required using administrative data systems not designed for evaluation purposes. The CMVS Lead Team likely missed outputs and impacts from the 5-year plan period.
- Counts of projects and outputs were derived independently, so the CMVS Lead Team was unable to link outputs to specific projects.

# Key Findings

Using process evaluation and contribution analysis methods, this evaluation showed:

- ✓ Meaningful progress toward all 5 strategic goals, with 80% of performance measures at least “Partially Met;”
- ✓ Close alignment of projects and outputs with goals and priority worker groups; and
- ✓ Impact on motor vehicle safety for each priority worker group.

## Progress by Strategic Goal

Progress ranged from 56% for Goal 3 (Promote evidence-based policies and practices), with 5 of 9 performance measures at least “Partially Met,” to 100% for Goal 5 (Communicate safety and policy recommendations), with all 8 performance measures reported as “Met or Exceeded.” Below is a more detailed discussion of goal-specific findings.

### Goal 1: Identify risk factors for work-related crashes

The greatest number of research outputs addressed Goal 1 (n=72, or 66% of all research outputs). This reflects the strong epidemiology and statistics expertise within the CMVS. It also shows CMVS researchers’ ability to develop projects that collect original data and to develop the relationships needed to access data collected by partners in government and industry. Future research needs to build on these findings, characterizing risk factors to guide interventions for the most pressing crash and injury problems.

### Goal 2: Apply engineering and technology-based safety interventions

Goal 2 showed good progress toward meeting performance measures. Some of its associated projects were funded in 2015 or later; while project tasks are mostly complete, some outputs are just beginning to appear. Delays in progress on some performance measures may also be due to the nature of the laboratory and field research covered by this goal. The research usually involves human subjects, requiring a rigorous process of obtaining approvals to proceed, with occasional delays that are out of researchers’ control. In addition, the research itself is complex, time-consuming, and labor-intensive. For example, research that uses driving simulators requires extensive programming of driving scenarios before data collection can begin. Also, engineering research generates a large volume of complex data, which requires time to correctly analyze and interpret. The impact demonstrated under this goal suggests value in expanding this type of research in the next strategic plan.

### **Goal 3: Promote evidence-based policies and practices**

Among the strategic goals, Goal 3 was least successful in meeting its defined performance measures, with 5 of 9 (56%) at least “Partially Met.” Despite this, Goal 3 had the most outputs of any strategic goal: 170 across the major output types. Outputs were concentrated in two areas where NIOSH has been active for many years. The first is NIOSH and partner investigations conducted through the Fatality Assessment and Control Evaluation program and the Fire Fighter Fatality and Injury Prevention Program. These investigations lead to practical recommendations for preventing similar events, and their findings help CMVS researchers identify research needs. The second is communication of general crash-prevention information to employers and workers through multiple channels. These two types of outputs have substantial reach and potential for impact, as both reflect efforts to put crash-prevention information into the hands of those who need it.

The mixed results for Goal 3 – less success in meeting performance measures, but large numbers of outputs – may be due in part to the nature of its performance measures. Some of the measures may have been too specific. In other research areas, the CMVS was not able to obtain the necessary resources and expertise during 2014-2018. The next CMVS strategic plan should continue efforts to develop practical solutions and identify opportunities to partner with external expertise and build internal expertise in areas such as organizational psychology, evaluation of injury prevention policies and programs, business management and analysis, and applied economics.

### **Goal 4: Share research results with global partners**

Progress on Goal 4 was limited, with only one performance measure “Fully Met or Exceeded.” Because of resource limitations, it was not possible to develop collaborative research with an international component. The 2016 midcourse review of the CMVS strategic plan noted this, stating that efforts toward this goal would be scaled back in the remaining years of the plan. Despite decreased emphasis on this topic, the accomplishments associated with Goal 4 were meaningful. Technical assistance to international organizations, notably the UN Road Safety Collaboration, led to the inclusion and tracking of work-related road safety for the UN Decade of Action for Road Safety 2011-2020 and in the voluntary global road safety targets for 2020 to 2030. Existing and anticipated resource constraints suggest reducing international collaboration activities in the next strategic plan.

### **Goal 5: Communicate safety and policy recommendations**

All performance measures for Goal 5 were “Fully Met or Exceeded.” The addition of a full-time health communication specialist to the CMVS in 2015 was instrumental in achieving this level of success. Before 2015, CMVS researchers had access to health communication support within

NIOSH organizational units, but resource limitations did not allow for long-term collaborations on motor vehicle safety. Having a health communication specialist dedicated to the CMVS has allowed that individual to develop subject-matter expertise and form relationships with counterparts in partner organizations, improving the quality and effectiveness of our communication products and services. Research and communication outputs are now promoted through campaigns that consider audience needs and preferences (based on focus-group research results), and they use a variety of channels. Since 2015, the CMVS has developed a presence on social media as a way to engage with partners and customers invested in motor vehicle safety, using national observances to join in a larger conversation and increase awareness of the CMVS. The next strategic plan should build on the CMVS's strong foundation for communicating prevention information, integrating health communication within the research areas defined in the plan.

### **Research Challenges**

Despite general success in achieving the goals in the strategic plan, this evaluation revealed some of the challenges in guiding work-related motor vehicle safety research:

- CMVS researchers compete for project funding in NIOSH-wide competitions that consider all research topics equally and do not guarantee funding for motor vehicle safety research.
- The CMVS strategic plan covered 5 years, yet most NIOSH research projects are funded for 4 years. Unless a project started before 2014 or early in the 2014-2018 period, it would not be expected to show outputs or impacts by the end of 2018.
- NIOSH resources that could have been dedicated to certain CMVS strategic goals may have been directed to address other NIOSH priorities.
- NIOSH encouraged its researchers to develop projects that reflected priorities in the CMVS strategic plan – a constraint that prospective grantees did not have. As a result, grantees produced a large number of outputs addressing other worker groups.

### **Planning for 2020**

This evaluation describes progress to date and will lay the foundation for a CMVS new strategic plan beginning in 2020. The [2019-2023 NIOSH strategic plan](#) will influence the next CMVS strategic plan in several ways:

- ✓ **Industry sectors:** The CMVS plan will emphasize 4 industry sectors with motor vehicle safety research goals: Oil and Gas Extraction; Public Safety; Transportation, Warehousing, and Utilities; and Wholesale and Retail Trade.

- ✓ The new CMVS plan will address the **safety issues** and **worker populations** which are priorities within these industry sectors.

Priorities already defined in the NIOSH strategic plan will influence the next CMVS plan. For example, for the Oil and Gas Extraction industry sector, seat belts and fatigue are priority safety issues for research to prevent motor vehicle crashes. The target worker population for that research is well servicing contractors and small businesses – segments of the industry where not using a seat belt and driver fatigue are of particular concern. The risks are already understood and effective interventions are available; what remains to be done is to learn how to effectively communicate what is known to employers and workers so that policies and behaviors will change and be maintained.

### **The Bottom Line**

This evaluation and the upcoming strategic planning process allow the CMVS Lead Team an opportunity to track progress, identify research needs, and incorporate internal and external partner input to better coordinate NIOSH research, communication, and policy activities in work-related motor vehicle safety. Continuing to balance research and communication will position the CMVS to effectively and efficiently work toward our overarching goal of preventing work-related motor vehicle crashes.